

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Tomoyuki Asano

Application No.: Not Yet Assigned

Filed: June 13, 2001

For: CHARGING SYSTEM AND
CHARGING METHOD

BOX PATENT APPLICATION
Assistant Commissioner For Patents
Washington, D.C. 20231

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) Examiner for Parent Appl.: Nga B. Nguyen
)
) Group Art Unit 2164
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Antonieta Musto
Antonieta Musto

PRELIMINARY AMENDMENT TO 1.53(b) DIVISIONAL

Dear Sir:

The above-identified application is a divisional of Application No. 08/865,403, filed
May 29, 1997. Please amend the instant application as follows.

IN THE SPECIFICATION:

Please add the following heading and paragraph on Page 1 after the title:

CROSS REFERENCE TO RELATED APPLICATIONS:

This is a divisional of copending U.S. Application No. 08/865,403, filed on May 29,
1997, which claims priority to Japanese Application No. P08-145358, filed June 7, 1996, all of
which are incorporated herein by reference to the extent permitted by law.

Please substitute the paragraph beginning on page 1, line 13 with the following paragraph:

A user connects his/her terminal provided with a modem function to a terminal provided
by a network provider via a public telephone line. The network provider connects his/her

terminal to, for example the Internet and sets so that the user can connect to the Internet from his/her terminal.

Please substitute the paragraph beginning on page 2, line 6 with the following paragraph:

However, there is a problem in the charging method of a conventional type network service in that even if a network provider charges a user a greater amount than an amount to be properly charged, it is difficult for the user to clarify this fact.

Please substitute the paragraph beginning on page 2, line 11 with the following paragraph:

There is also a problem in that it is also difficult for a network provider to prove that it is charging a user a proper fee.

Please substitute the paragraph beginning on page 2, line 14 with the following paragraph:

The present invention is made to solve such a situation. The object of the present invention is to enable a user to prove that a service provider charges a wrong fee and to enable a service provider to prove that he/she charges a user a proper fee.

Please substitute the paragraph beginning on page 2, line 18 with the following paragraph:

A charging system according to one aspect of the present invention is characterized in that the system is provided with fee collection means for collecting a fee equivalent to service which a service provider provides to a user from the user independent of the service provider.

Please substitute the paragraph beginning on page 2, line 23 with the following paragraph:

A charging method according to another aspect of the present invention is characterized in that a fee equivalent to service which a service provider provides to a user is collected from a user independent of the service provider.

Please substitute the paragraph beginning on page 3, line 4 with the following paragraph:

In the charging system disclosed herein, a fee collection means collects a fee equivalent to service provided to a user by a service provider from the user independent of the service provider.

Please substitute the paragraph beginning on page 3, line 8 with the following paragraph:

In the charging method disclosed herein, a fee equivalent to service provided to a user by the service provider is collected from the user independent of the service provider.

Please substitute the paragraph beginning on page 3, line 23 with the following paragraph:

Fig. 5 is a block diagram showing an example of a further configuration of the service providing system applying the charging system according to the present invention; and

Please substitute the paragraph beginning on page 4, line 7 with the following paragraph:

Fig. 1 is a block diagram showing the configuration of an embodiment of a service providing system applying a charging system according to the present invention. A user 1 requests a service provider 2 to provide a predetermined service. The service provider 2

provides the predetermined service to the user 1 in response to the request from the user 1, charges the user 1 a fee equivalent to the service and requests a bank 3 (fee collection means) to collect the fee from the user 1. The bank 3 collects the fee from the user 1 in response to the request from the service provider 2.

Please substitute the paragraph beginning on page 8, line 1 with the following paragraph:

Fig. 3 is a block diagram showing an example of a configuration of another embodiment of a service providing system applying a charging system according to the present invention. In the case of this example, a user 1 requests a service provider 2 to provide predetermined service. The service provider 2 provides predetermined service to the user 1 in response to the request from the user 1, charges a fee for the service to the user 1 and requests a bank 3 to collect the fee from the user 1. The bank 3 collects the fee from the user 1 in response to the request from the service provider 2.

Please substitute the paragraph beginning on page 8, line 12 with the following paragraph:

Next, referring to a flowchart shown in Fig. 4, the operation will be described. First, in a step S21, when a user 1 utilizes the service provided by a service provider 2, he/she creates service request data and digital signature data added to the service request data as in the above case shown in Fig. 2 and sends the service request data and digital signature data to the service provider 2.

Please substitute the paragraph beginning on page 9, line 21 with the following paragraph:

Fig. 5 is a block diagram showing the configuration of yet a further embodiment of the service providing system applying the charging system according to the present invention. In the case of this example, an IC card 12 (storage means) is connected to the communication terminal 11 (hereinafter called a user communication terminal) of a user.

Please substitute the paragraph beginning on page 10, line 22 with the following paragraph:

The IC card 12 is constituted by hardware so that it is easy to read the whole or a part of information recorded in it, however it is really impossible to modify the information or information is recorded in the IC card using a software technique.

Please substitute the paragraph beginning on page 11, line 3 with the following paragraph:

Information (for example, personal information such as the name and the account number of a user using the user communication terminal 11) required for the user communication terminal 11 to create digital signature data is stored in the IC card 12 and digital signature data is created by a CPU provided to the IC card 12 according to a predetermined program. When digital signature data is created, the service request data and the digital signature data are always recorded in a memory built in the IC card 12.

Please substitute the paragraph beginning on page 13, line 3 with the following paragraph:

As described above, in the case of the embodiment shown in Fig. 5, when a user using a user communication terminal 11 approves a right fee, the cooperation of a service provider 2 is

not required. As described above, this is because data once recorded in an IC card 12 is disabled from being changed by a user, any data required for calculating a right fee (in this case, service request data and digital signature data) is recorded in an IC card 12 and the user can submit this data to a Bank 3. That is, the Bank 3 can calculate the right fee based upon only data recorded in the IC card 12 submitted by the user without receiving any data from a service provider 2. Hereby, a processing procedure in charging can be simplified. In the above embodiments, a bank 3 collects a fee, however, the other third party may also collect it.

Please substitute the paragraph beginning on page 13, line 17 with the following paragraph:

In the embodiment shown in Fig. 5, an IC card 12 is used, however, another recording medium may also be used.

Please substitute the paragraph beginning on page 13 line 19 with the following paragraph:

According to a charging system and a charging method disclosed herein, as a fee equivalent to service provided to a user by a service provider is collected from the user independent of the service provider, the user can prove the fact of a wrong fee charged by the service provider and the service provider can prove the validity of a fee charged the user by the service provider. Therefore, a right fee equivalent to service provided to the user by the service provider can be collected from the user.

IN THE CLAIMS:

Please cancel claims 1-16, without prejudice. Please add claims 17-28, as follows:

17. A method for accounting for a fee concerning service provided to a user by a service provider to a user, comprising the steps of:

receiving from said service provider a charge collection request based on a service request sent from the user to said service provider;

informing said charge collection to the user based on said charge collection request received from said service provider; and

verifying validity of the charge based on said service request and digital signature generated based on said service request when an objection to the fee is received from the user.

18. The method according to the claim 17, wherein the service request and the digital signature for verifying are provided from the user.

19. The method according to claim 18, wherein the service requests and the digital signature for verifying are provided via a storage medium connectable to a user terminal.

20. The method according to claim 17, wherein the service request and the digital signature for verifying are provided from the service provider.

21. A system for accounting for a fee concerning service provided to a user by a service provider to a user, comprising:

means for receiving from said service provider a charge collection request based on a service request sent from the user to said service provider;

means for informing said charge collection to the user based on said charge collection request received from said service provider; and

means for verifying validity of the charge based on said service request and digital signature generated based on said service request when an objection to the fee is received from the user.

22. The system according to claim 21, wherein the service request and the digital signature for verifying are provided from the user.

23. The system according to claim 22, wherein the service requests and the digital signature for verifying are provided via a storage medium connectable to a user terminal.

24. The system according to claim 21, wherein the service request and the digital signature for verifying are provided from the service provider.

25. A system for accounting for a fee concerning service provided to a user by a service provider to a user, comprising:

an accounting terminal for receiving from said service provider a charge collection request based on a service request sent from the user to said service provider, wherein the accounting terminal

informs said charge collection to the user based on said charge collection request received from said service provider, and

verifies validity of the charge based on said service request and digital signature generated based on said service request when an objection to the fee is received from the user.

26. The system according to claim 25, wherein the service request and the digital signature for verifying are provided from the user.

27. The system according to claim 26, wherein the service requests and the digital signature for verifying are provided via a storage medium connectable to a user terminal.

28. The system according to claim 25, wherein the service request and the digital signature for verifying are provided from the service provider.

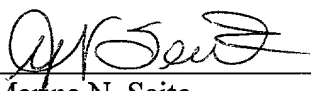
REMARKS

Claims 1-16 are pending in the above-identified application. With this Amendment, claims 1-16 have been cancelled and claims 17-28 have been added. Accordingly, claims 17-28 are at issue.

Applicant respectfully requests early and favorable consideration of the above-identified application by the Examiner.

Respectfully submitted,

Dated: June 13, 2001

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APPENDIX A
VERSION WITH MARKINGS TO SHOW CHANGES MADE IN THE SPECIFICATION
IN THE SPECIFICATION:

On Page 1, after the title, the following heading and paragraph are added as follows:

CROSS REFERENCE TO RELATED APPLICATIONS:

This is a divisional of copending U.S. Application No. 08/865,403, filed on May 29, 1997, which claims priority to Japanese Application No. P08-145358, filed June 7, 1996, all of which are incorporated herein by reference to the extent permitted by law.

On page 1, the paragraph starting at line 13 is amended as follows:

[That is, a] A user connects his/her terminal provided with a modem function to a terminal provided by a network provider via a public telephone line. The network provider connects his/her terminal to, for example the Internet and sets so that the user can connect to the Internet from his/her terminal.

On page 2, the paragraph starting at line 6 is amended as follows:

However, there is a problem in the charging method of a conventional type network service in that even if a network provider charges a user a [more] greater amount than an amount to be [charged properly] properly charged, it is difficult for the user to clarify this fact.

On page 2, the paragraph starting at line 11 is amended as follows:

There is also a problem in that it is also difficult [that] for a network provider [proves he/she charges] to prove that it is charging a user a proper fee.

On page 2, the paragraph starting at line 14 is amended as follows:

The present invention is made to solve such a situation. [and the object] The object of the present invention is to enable a user to prove that a service provider charges a wrong fee and to enable a service provider to prove that he/she charges a user a proper fee.

On page 2, the paragraph starting at line 18 is amended as follows:

A charging system [disclosed in Claim 1] according to one aspect of the present invention is characterized in that the system is provided with fee collection means for collecting a fee equivalent to service which a service provider provides to a user from the user independent of the service provider.

On page 2, the paragraph starting at line 23 is amended as follows:

A charging method [disclosed in Claim 9] according to another aspect of the present invention is characterized in that a fee equivalent to service which a service provider provides to a user is collected from a user independent of the service provider.

On page 3, the paragraph starting at line 4 is amended as follows:

In the charging system disclosed [in Claim 1] herein, a fee collection means collects a fee equivalent to service provided to a user by a service provider from the user independent of the service provider.

On page 3, the paragraph starting at line 8 is amended as follows:

In the charging method [disclosed in Claim 9] disclosed herein, a fee equivalent to service provided to a user by the service provider is collected from the user independent of the service provider.

On page 3, the paragraph starting at line 23 is amended as follows:

Fig. 5 is a block diagram showing an example of a further [the other] configuration of the service providing system applying the charging system according to the present invention; and

On page 4, the paragraph starting at line 7 is amended as follows:

Fig. 1 is a block diagram showing the configuration of an embodiment of a service providing system applying a charging system according to the present invention. A user 1 requests a service provider 2 to provide a predetermined service. The service provider 2 provides the predetermined service to the user 1 in response to the request from the user 1, charges the user 1 a fee equivalent to the service and requests a bank 3 (fee collection means) to collect the fee from the user 1. The bank 3 collects the fee from the user 1 in response to the request from the service provider 2.

On page 8, the paragraph starting at line 1 is amended as follows:

Fig. 3 is a block diagram showing an example of a configuration [in] of another embodiment of a service providing system applying a charging system according to the present invention. In the case of this example, a user 1 requests a service provider 2 to provide

predetermined service. The service provider 2 provides predetermined service to the user 1 in response to the request from the user 1, charges a fee for the service to the user 1 and requests a bank 3 to collect the fee from the user 1. The bank 3 collects the fee from the user 1 in response to the request from the service provider 2.

On page 8, the paragraph starting at line 12 is amended as follows:

Next, referring to a flowchart shown in Fig. 4, the operation will be described. First, in a step S21, when a user 1 utilizes the service provided by a service provider 2, he/she creates service request data and digital signature data added to the service request data as in the above case shown in Fig. 2 and sends the service request data and digital signature data to the service provider 2.

On page 9, the paragraph starting at line 21 is amended as follows:

Fig. 5 is a block diagram showing the configuration of yet a further [the other] embodiment of the service providing system applying the charging system according to the present invention. In the case of this example, an IC card 12 (storage means) is connected to the communication terminal 11 (hereinafter called a user communication terminal) of a user.

On page 10, the paragraph starting at line 22 is amended as follows:

The IC card 12 is constituted by hardware so that it is easy to read the whole or a part of information recorded in it, however it is really impossible to modify the information or information is recorded in the IC card using a software technique.

On page 11, the paragraph starting at line 3 is amended as follows:

Information (for example, personal information such as the name and the account number of a user using the user communication terminal 11) required for the user communication terminal 11 to create digital signature data is stored in the IC card 12 and digital signature data is created by a CPU provided to the IC card 12 according to a predetermined program. When digital signature data is created, the service request data and the digital signature data are always recorded in a memory built in the IC card 12.

On page 13, the paragraph starting at line 3 is amended as follows:

As described above, in the case of the embodiment shown in Fig. 5, when a user using a user communication terminal 11 [proves] approves a right fee, the cooperation of a service provider 2 is not required. As described above, this is because data once recorded in an IC card 12 is disabled from being changed by a user, any data required for calculating a right fee (in this case, service request data and digital signature data) is recorded in an IC card 12 and the user can submit this data to a bank 3. That is, the bank can calculate the right fee based upon only data recorded in the IC card 12 submitted by the user without receiving any data from a service provider 2. Hereby, a processing procedure in charging can be simplified. In the above embodiments, a bank 3 collects a fee, however, the other third party may also collect it.

On page 13, the paragraph starting at line 17 is amended as follows:

In the embodiment shown in Fig. 5, an IC card 12 is used, however, [the other] another recording medium may [be] also be used.

On page 13, the paragraph starting at line 19 is amended as follows:

According to a charging system [disclosed in Claim 1] and a charging method disclosed [in Claim 9] herein, as a fee equivalent to service provided to a user by a service provider is collected from the user independent of the service provider, the user can prove the fact of a wrong fee charged by the service provider and the service provider can prove the validity of a fee charged the user by the service provider. Therefore, a right fee equivalent to service provided to the user by the service provider can be collected from the user.

APPENDIX B
VERSION WITH MARKINGS TO SHOW CHANGES MADE IN CLAIMS

Claims 1-16 are canceled, claims 17-28 are added as follows:

17. (New) A method for accounting for a fee concerning service provided to a user by a service provider to a user, comprising the steps of:

receiving from said service provider a charge collection request based on a service request sent from the user to said service provider;

informing said charge collection to the user based on said charge collection request received from said service provider; and

verifying validity of the charge based on said service request and digital signature generated based on said service request when an objection to the fee is received from the user.

18. (New) The method according to the claim 17, wherein the service request and the digital signature for verifying are provided from the user.

19. (New) The method according to claim 18, wherein the service requests and the digital signature for verifying are provided via a storage medium connectable to a user terminal.

20. (New) The method according to claim 17, wherein the service request and the digital signature for verifying are provided from the service provider.

21. (New) A system for accounting for a fee concerning service provided to a user by a service provider to a user, comprising:

means for receiving from said service provider a charge collection request based on a service request sent from the user to said service provider;

means for informing said charge collection to the user based on said charge collection request received from said service provider; and

means for verifying validity of the charge based on said service request and digital signature generated based on said service request when an objection to the fee is received from the user.

22. (New) The system according to claim 21, wherein the service request and the digital signature for verifying are provided from the user.

23. (New) The system according to claim 22, wherein the service requests and the digital signature for verifying are provided via a storage medium connectable to a user terminal.

24. (New) The system according to claim 21, wherein the service request and the digital signature for verifying are provided from the service provider.

25. (New) A system for accounting for a fee concerning service provided to a user by a service provider to a user, comprising:

an accounting terminal for receiving from said service provider a charge collection request based on a service request sent from the user to said service provider, wherein the accounting terminal

informs said charge collection to the user based on said charge collection request received from said service provider, and

verifies validity of the charge based on said service request and digital signature generated based on said service request when an objection to the fee is received from the user.

26. (New) The system according to claim 25, wherein the service request and the digital signature for verifying are provided from the user.

27. (New) The system according to claim 26, wherein the service requests and the digital signature for verifying are provided via a storage medium connectable to a user terminal.

28. (New) The system according to claim 25, wherein the service request and the digital signature for verifying are provided from the service provider.